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# Echinoderms as **potential novel** seafood from a strategic and sustainable point of view

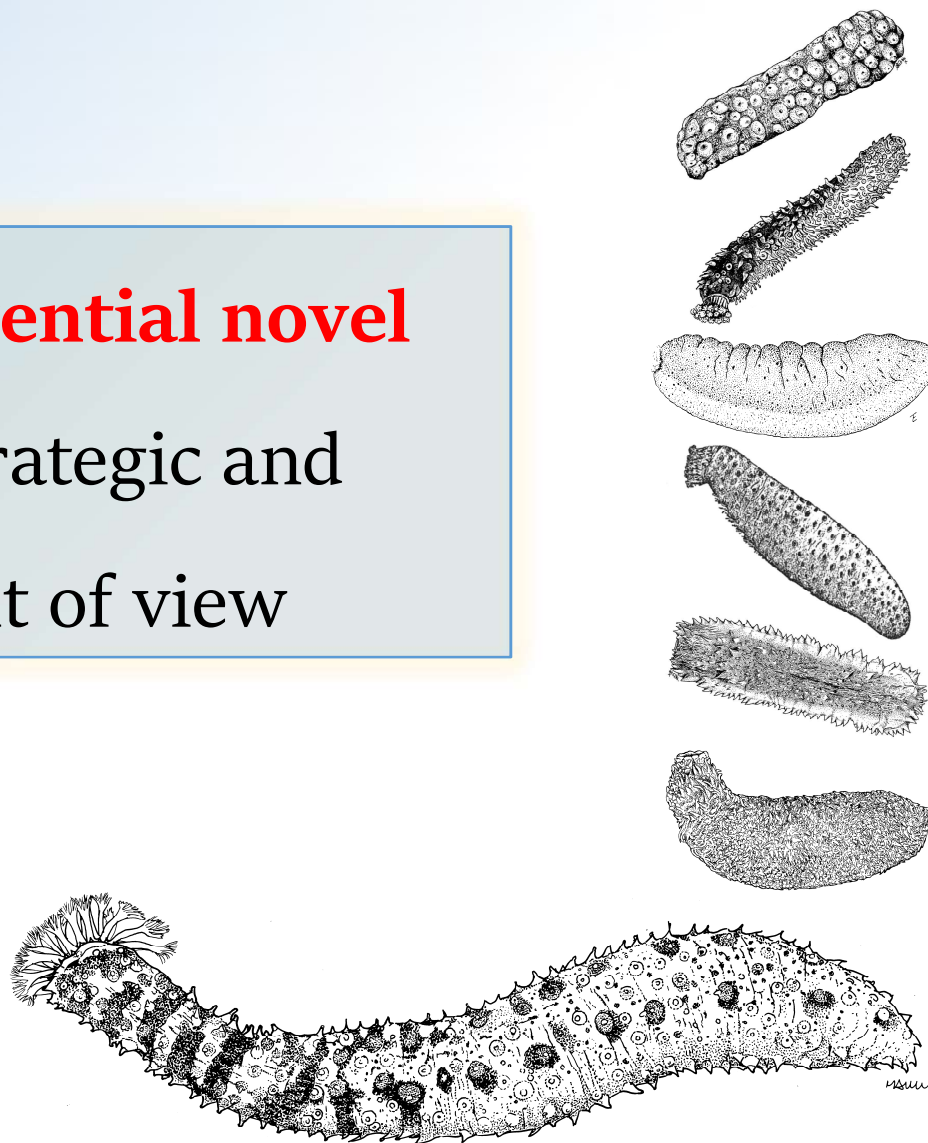
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FAO Fisheries and Aquaculture Division

Aquaculture Production and Technology Team (NFIAT)

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Advances in sea cucumber  
aquaculture and management



**2004 – Dalian, China**

<https://www.fao.org/3/y5501e/y5501e.pdf>

## Session I

Status of resources and utilization

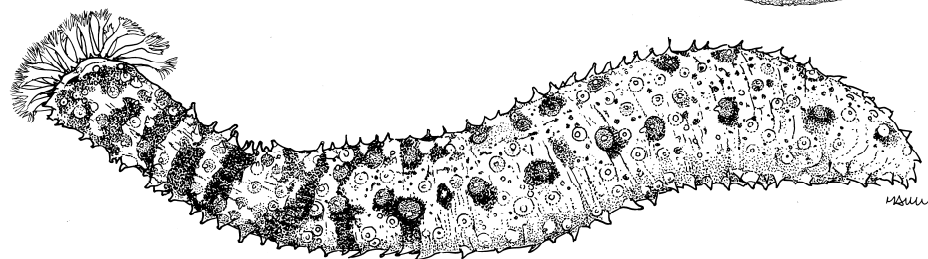
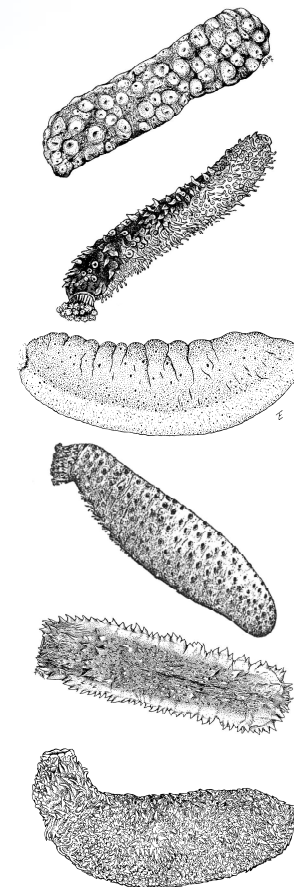
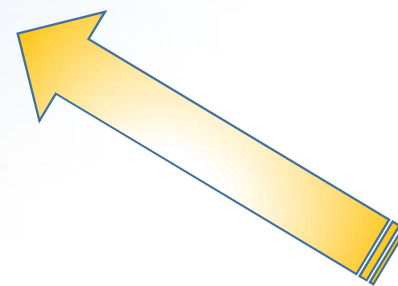
## Session II

**Resources management**

## Session III

Aquaculture advances

The workshop formulated a series of recommendations to help development organizations and national governments prioritize their activities concerning sea cucumber conservation and exploitation.





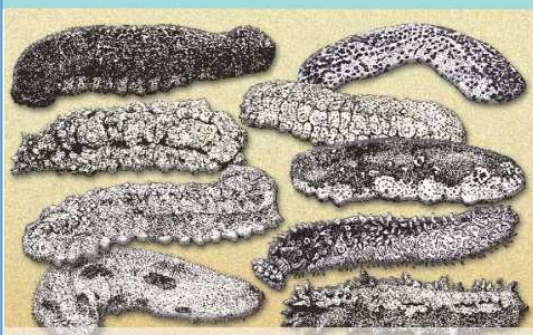
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### Sea cucumbers

A global review of fisheries and trade

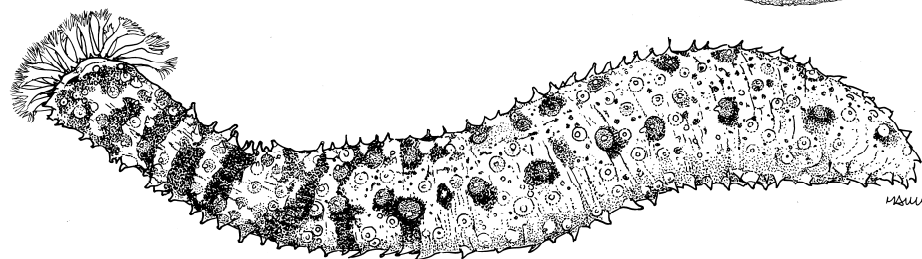
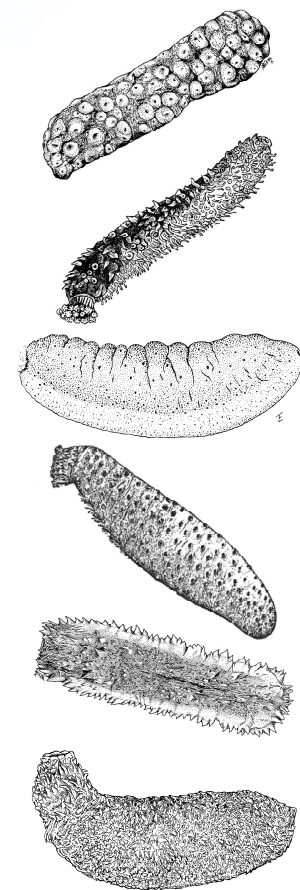


Prompted by concerns about the status of sea cucumbers stocks worldwide, because of the **demand**.



With support from its Members, FAO implemented a project with the objective to develop technical guidelines to assist fisheries managers in deciding regulations and processes for the better management, conservation and sustainable exploitation of their sea cucumber resources.

In support of the development of technical guidelines, regional reviews and hotspot analyses were commissioned



**2008 – Galapagos, Ecuador**

<https://www.fao.org/3/i0375e/i0375e00.pdf>





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Managing sea cucumber  
fisheries with an ecosystem  
approach



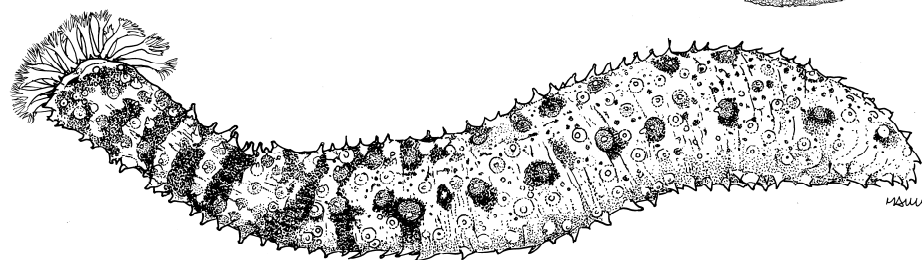
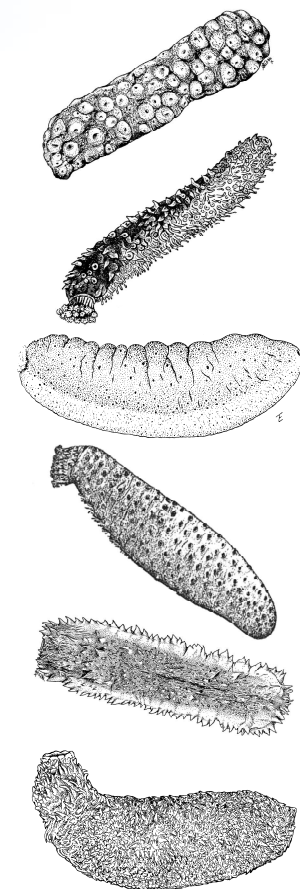
2010

<https://www.fao.org/3/I1384E/i1384e.pdf>

“**Roadmap**” to guide fishery managers in choosing appropriate regulatory measures and management actions for sea cucumber fisheries.

**Improved management of sea cucumber fisheries is an imperative.**

The commitment of governments, fishery managers and scientists to develop, apply and strictly enforce EAF will be crucial to sustaining sea cucumber populations for current and future generations.





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FAO Fisheries and Aquaculture Report No. 1003

FIRA/R1003 (En)

ISSN 2070-6987

## Pacific Ocean

Report of the

FAO Workshop on Sea Cucumber Fisheries: An Ecosystem Approach  
to Management in the Pacific (SCEAM PACIFIC)

Nadi, Fiji, 15-18 November 2011



<https://www.fao.org/3/i2658e/i2658e.pdf>

FAO Fisheries and Aquaculture Report No. 1038

FIRA/R1038 (En)

ISSN 2070-6987

## Indian Ocean

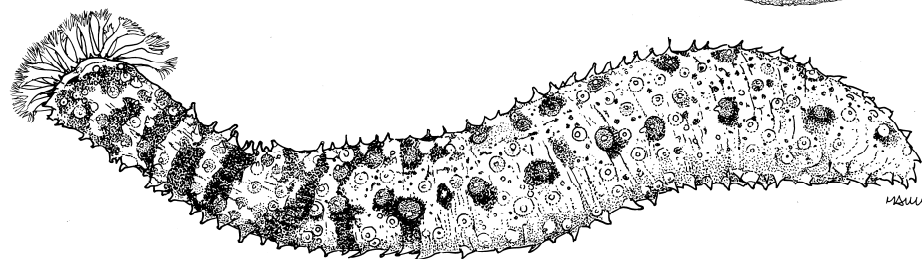
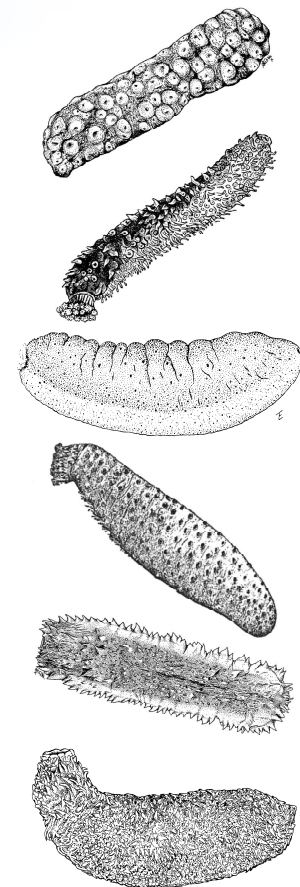
Report of the

FAO Workshop on Sea Cucumber Fisheries: An Ecosystem Approach  
to Management in the Indian Ocean (SCEAM Indian Ocean)

Mazizini, Zanzibar, the United Republic of Tanzania, 12-16 November 2012



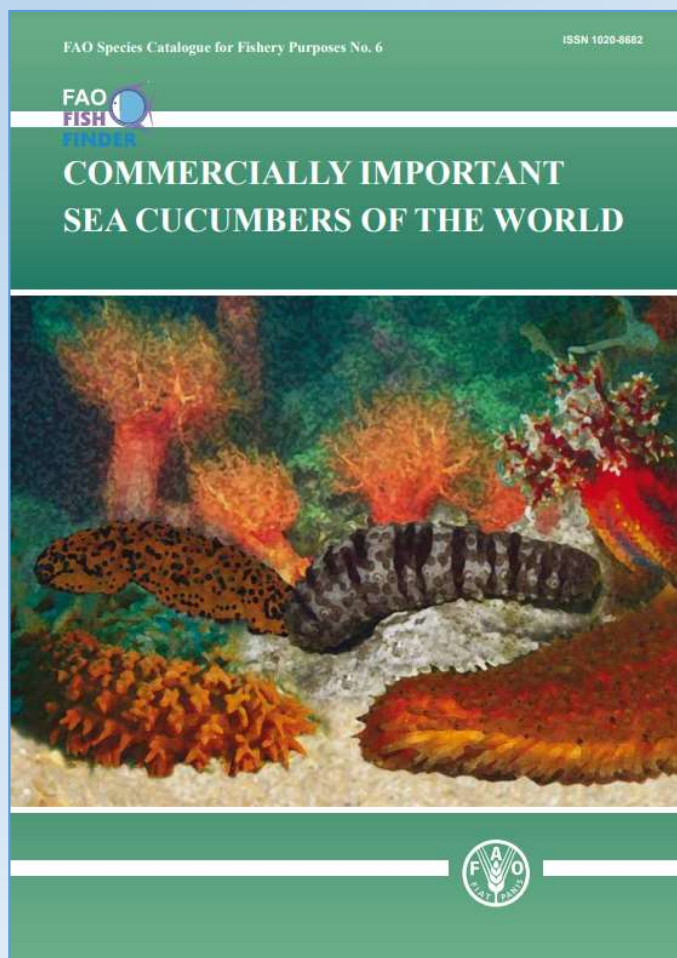
<https://www.fao.org/3/i3223e/i3223e.pdf>







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<https://www.fao.org/3/i1918e/i1918e.pdf>

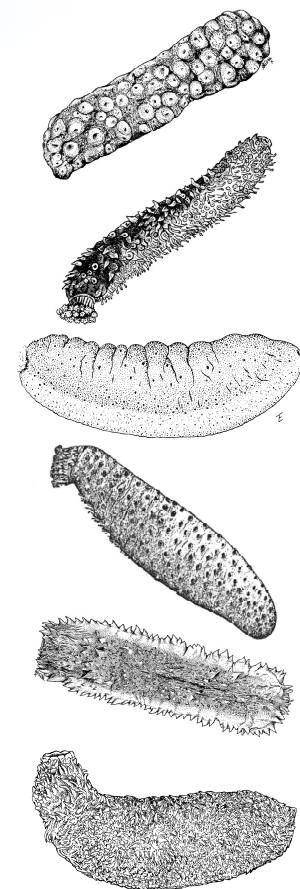
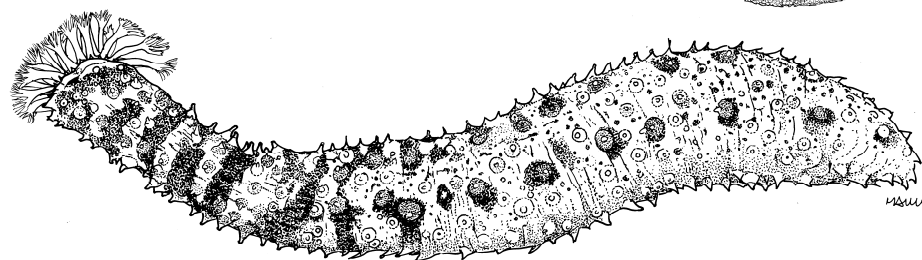
Sea cucumbers of commercial importance are distributed globally.

International for a have underscored a current limitation in available tools for identifying processed animals traded internationally.

FAO coordinated a project to prepare this global identification guidebook.

This book provides identification information on 58 species of sea cucumbers that are commonly exploited around the world.

2012



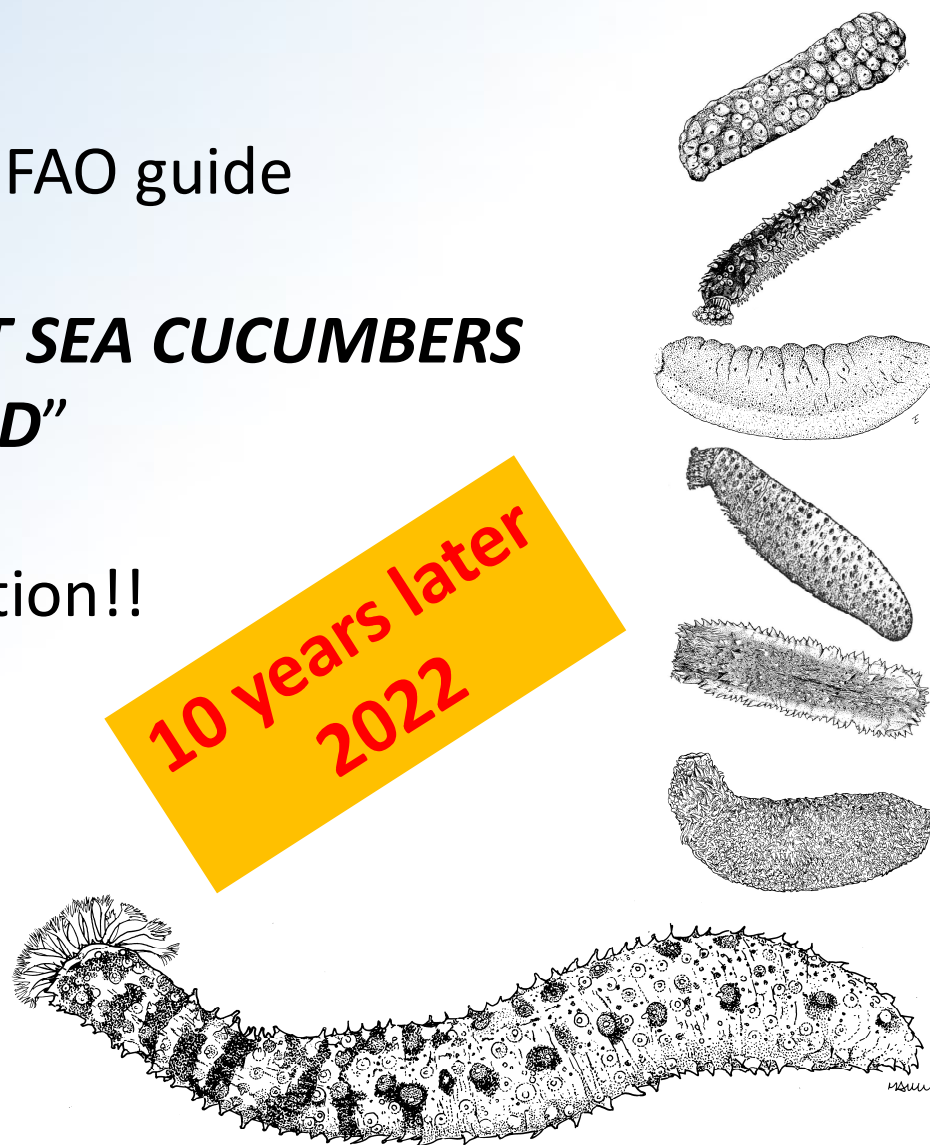


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The **2<sup>nd</sup> edition** of the FAO guide  
on  
***“COMMERCIALY IMPORTANT SEA CUCUMBERS  
OF THE WORLD”***

is under preparation!!

To meet the demand, extensive  
harvesting and trade of sea  
cucumbers has spread to all major  
oceans of the world, and at least **90**  
species are now harvested in **80**  
countries worldwide.



**10 years later  
2022**



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What are we  
questioning ourselves is  
whether  
**SEA CUCUMBERS**  
will become a novel food

Is it not already!





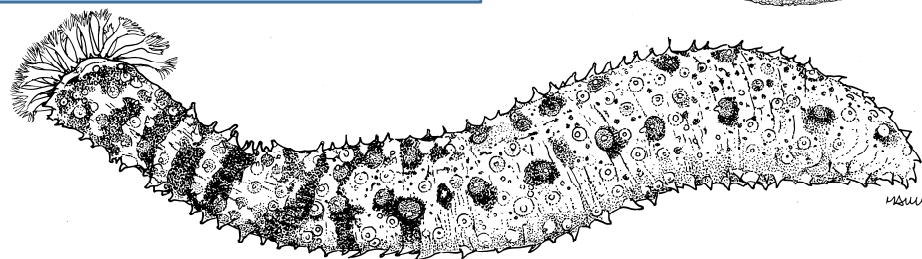
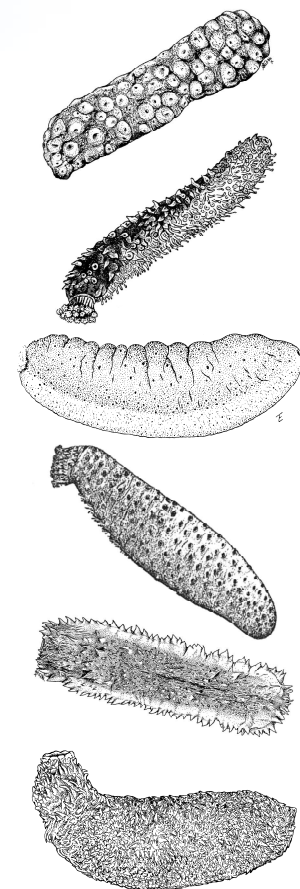


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But in what market!



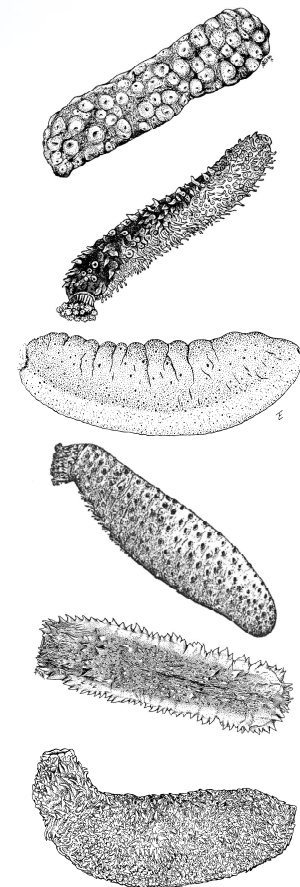
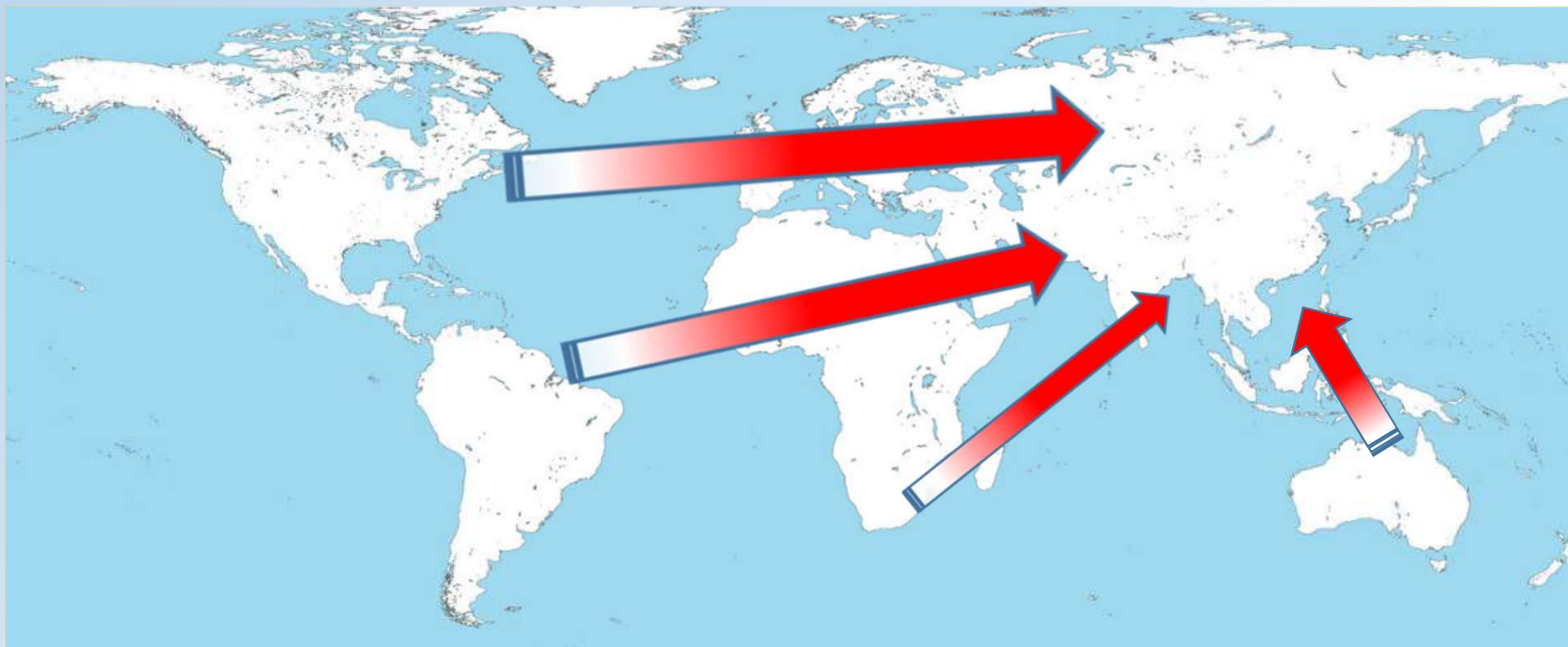
The market is basically one!



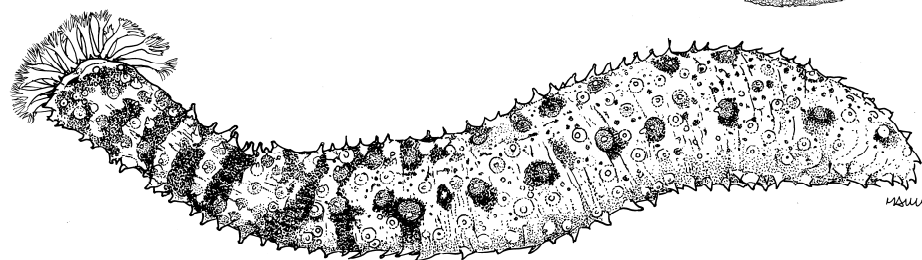


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Data on **capture statistics** is basically not available or rather difficult to obtain reliable one



What is it that we know?





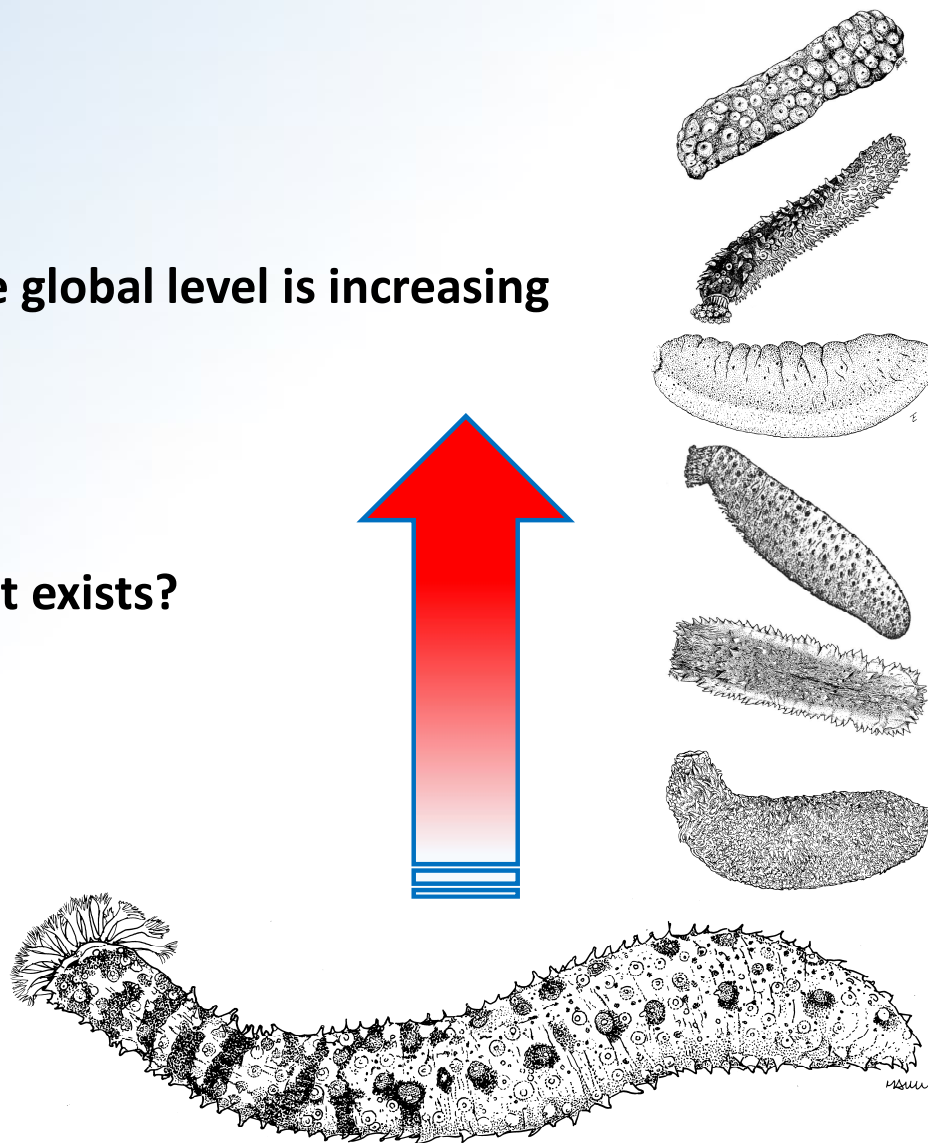
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The number of fished sea cucumber species at the global level is increasing

**WHY?**

Only because a lucrative market exists?

I think so!!!







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### Mediterranean Sea

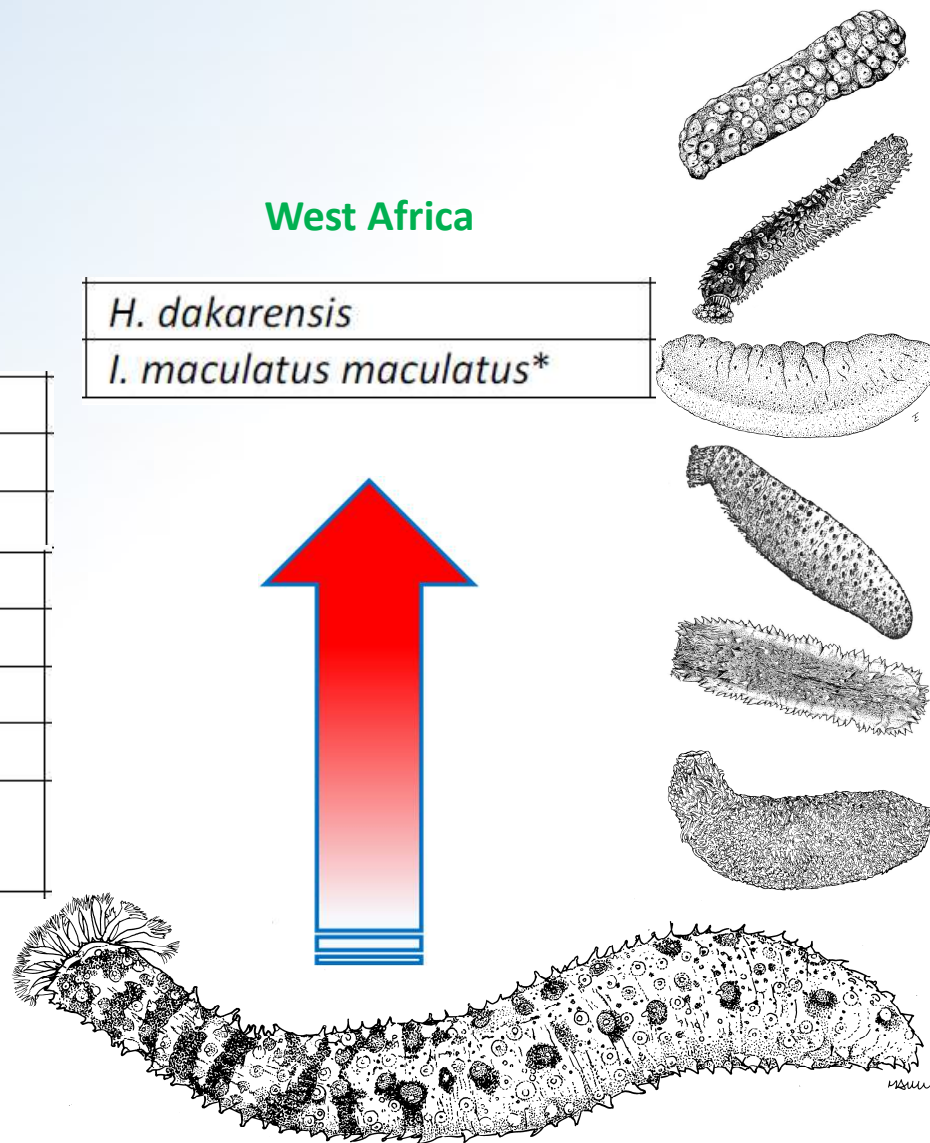
<i>Holothuria arguinensis</i>
<i>H. forskali</i>
<i>H. lentiginosa</i>
<i>H. mammata</i>
<i>H. poli</i>
<i>H. sanctori</i>
<i>H. tubulosa</i>
<i>Parastichopus regalis</i>
<i>P. tremulus</i>

### Latin America

<i>H. paraprinceps</i>
<i>H. grisea</i>
<i>H. parinhabilis,</i>
<i>H. pseudoimitans</i>
<i>H. lubrica</i>
<i>H. floridana</i>
<i>H. portovallartensis</i>
<i>Isostichopus maculatus</i> <i>phoenius</i>

### West Africa

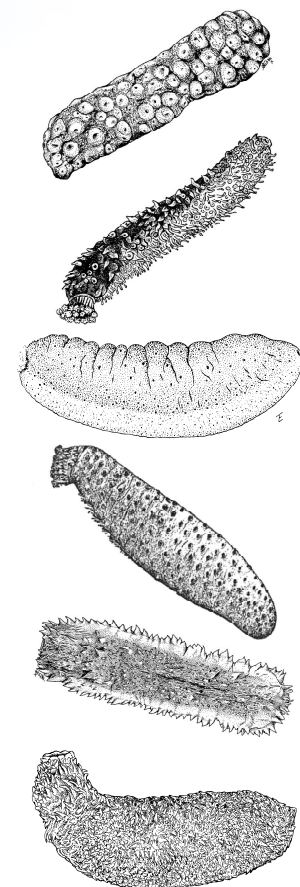
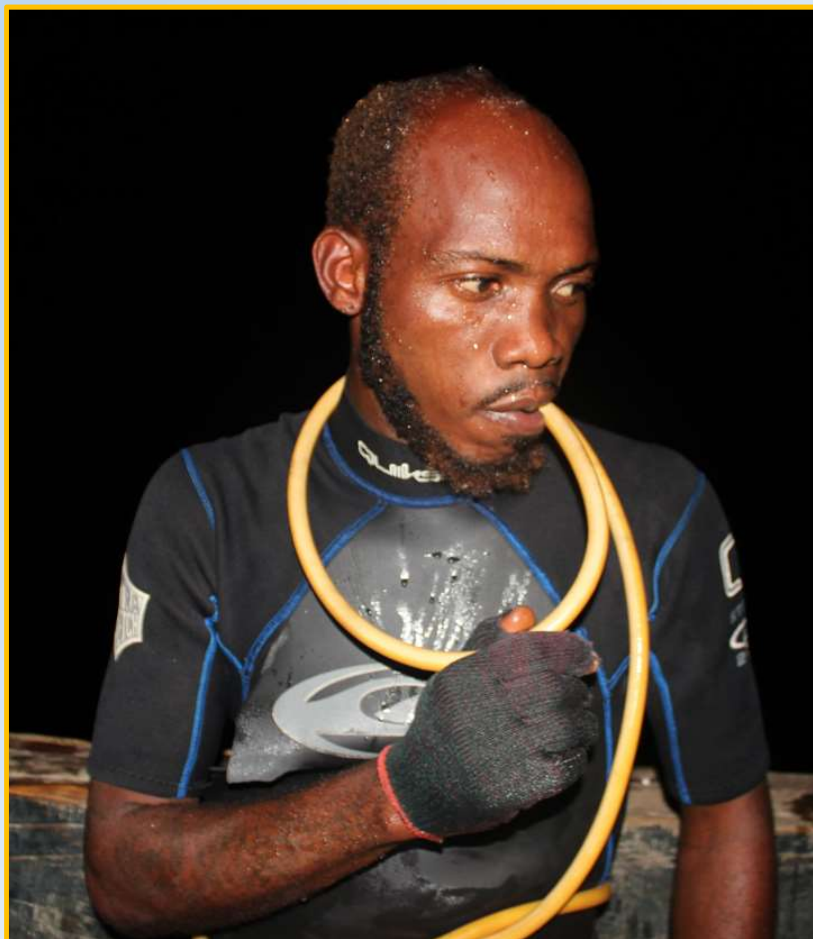
<i>H. dakarensis</i>
<i>I. maculatus maculatus*</i>



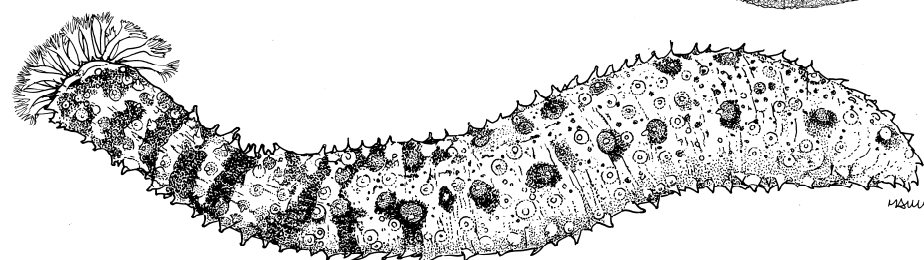


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**SIERRA LEONE**



**LIBERIA**





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# - Holothurians -

## PROVIDE IMPORTANT ECOLOGICAL SERVICES

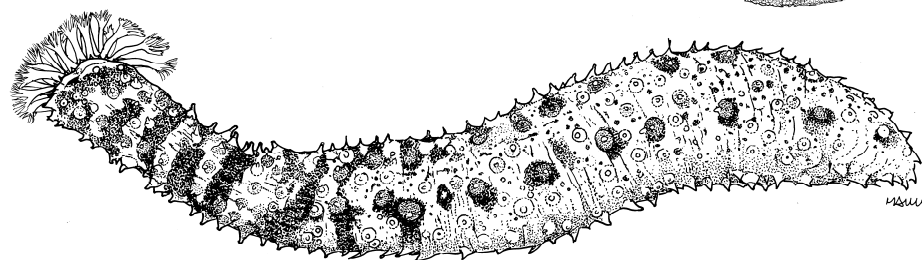
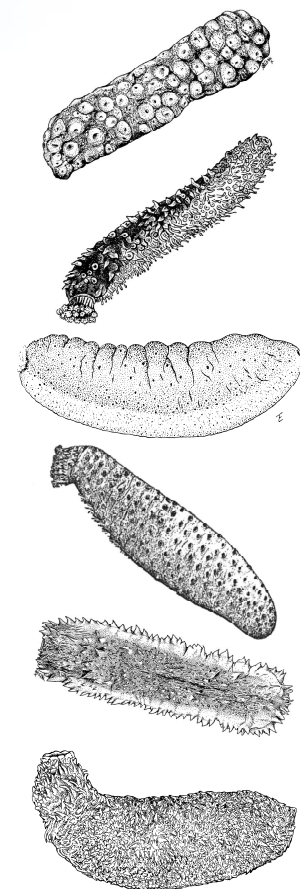
Detritus feeders - they feed on organic material that settles in the seabed.

They bioturbate and oxygenate the sediment.

They play a key role in the dynamics of the seabed.

**They basically keep sea sediments**

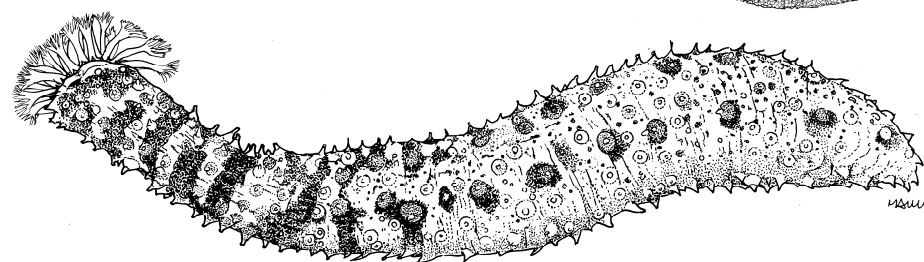
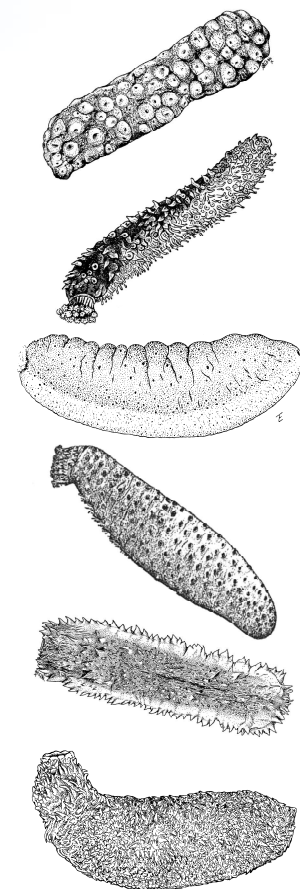
**HEALTHY**







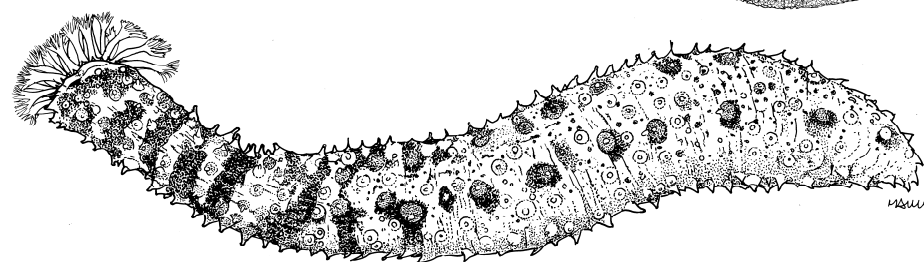
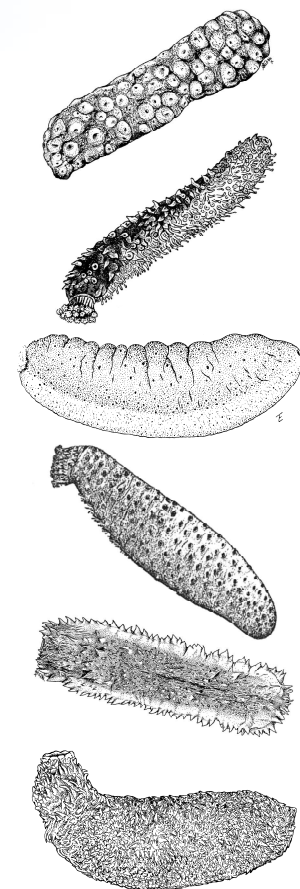
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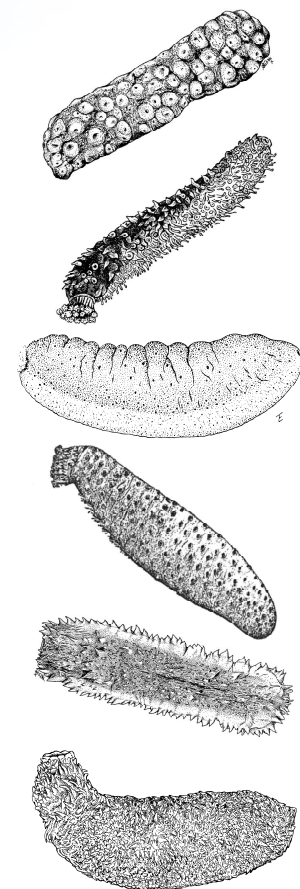
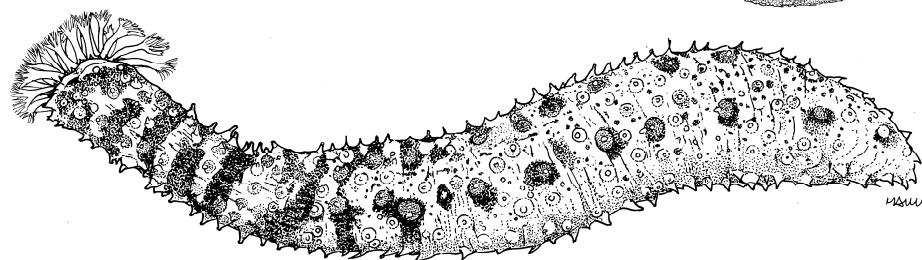
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## Who are the consumers of sea cucumbers?

Mainly east Asians – **CHINA**

Asian communities (of Chinese origin) in other  
parts of the world

**What is it they like**

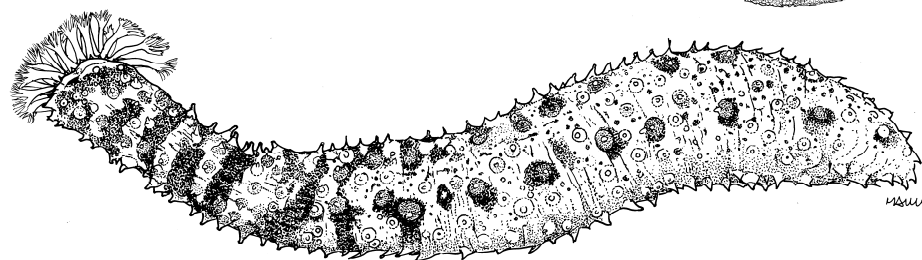
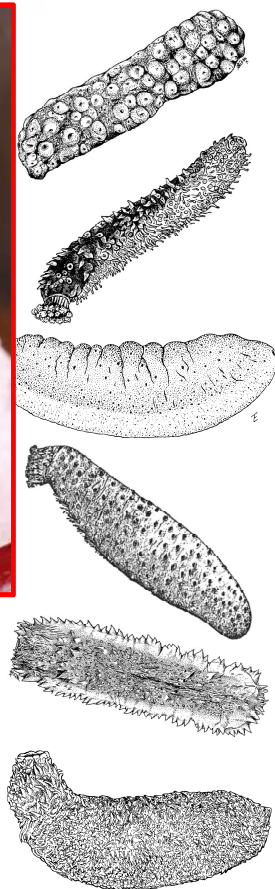






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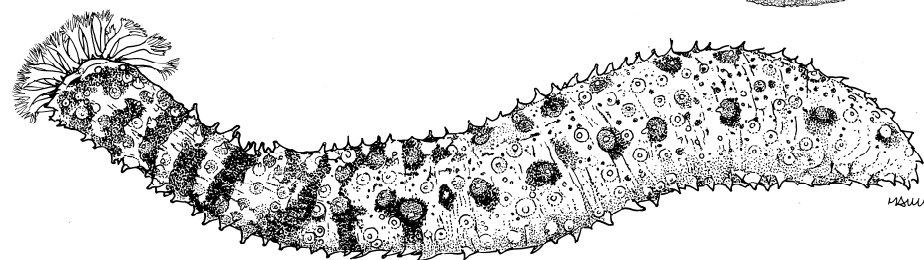
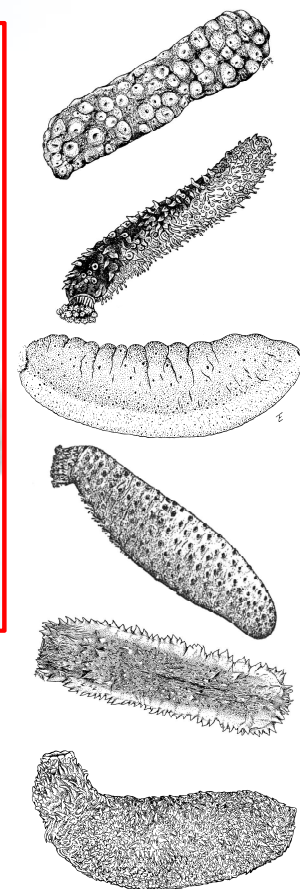
# As food!





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# What about the taste



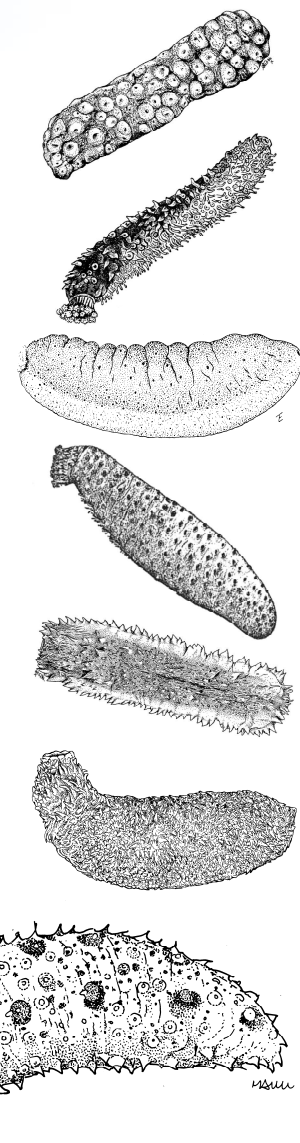




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- Functional food
- Traditional medicine
- Cosmetics
- Pharmaceuticals







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# SHOULD WE BE WORKING TO GET SEA CUCUMBERS ON OUR TABLES

THANK YOU

